

Notes on the genus *Agdistis*, Hb., with description of a new species (*Agdistis sphinx*, Wlsm.).

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The genus *Agdistis*, Hb., includes about seventeen species, for the most part almost impossible to identify from published descriptions, and always extremely difficult to separate, especially when represented by poor specimens, or by merely a few examples. The form and pattern is remarkably similar in all, and, with only two exceptions, the general colouring of the forewings is practically the same. The two, which may be at once recognised by their distinctly darker tint, are *Agdistis adactyla*, Hb., and *A. satanas*, Mill. The Zeller Collection contains thirteen specimens of *adactyla*, and I have others, but am personally unacquainted with the larva, which feeds on *Artemisia campestris*, and in *Ann. Soc. Ent. Fr.*, i., 250 (1832), it is said to occur on *Chenopodium fruticosum*. Of *A. satanas* I have a small series of twelve, sent me by the late M. Millière, who swept larvæ, some of which I also possess, from mixed herbage at Cannes, ultimately determining the foodplant as *Scabiosa candicans*. Eppelsheim, who recorded this insect for the first time from Germany, found two larvæ on *Scleranthus*, sp., which did not agree with those of *adactyla*, and which he thought belonged to *satanas*, because found on the spot where he had taken it. In this connection it may be mentioned that Bruand, in 1858, had described his *A. delphinensella*, as being darker than any figure published by Herrich-Schäffer. The figure of *adactyla*, in Herrich-Schäffer's *Schm. Eur.* (pl. vii., 47), is certainly too pale to represent our present idea of that species. Rebel suggests that *satanas* and *delphinensella* may possibly be identical, but it seems at least equally probable that the latter is truly the more widely distributed *adactyla*, Hb., and it would certainly be still unsafe to sink Millière's name in its favour. *A. satanas* is smaller, and usually darker than *adactyla*, the larvæ is one of those with raised thoracic tubercles, and has rather strong bristles on the small tuberculated dorsal spots.

Millière also described two species, *A. staticis* and *A. lerinsis*, as feeding on "*Statice cordata*" (a name not mentioned in Bonnier and de Layen's *Flore de la France*). He assured me that *staticis* was to be found always about a month earlier than *lerinsis*, although on the same plants and in the same locality. He sent me larvæ and living specimens of both, in glass tubes, by post, but, so far as the imagines were concerned, I was never able to distinguish them satisfactorily, and, after carefully labelling bred specimens, I always suspected some confusion among the pupæ and perfect insects received from him. It was of course impossible to deny that the larvæ were absolutely distinct; of these, *lerinsis*, properly emended to *lerinensis* by Rebel (*Cat. Lep. Pal.*, ii., 77, no. 1422), is tuberculated as in *frankeniae*, Z., while *staticis* is smooth as in *bennetii*, Curt., with which it might easily be confused. *A. bennetii* is one of the few lepidoptera which can so far claim to be exclusively British, and it was with no small surprise that, in 1903, I found larvæ, apparently undistinguishable from those of this species, on its foodplant *Statice limonium*, at Hammam-es-Salabin, in Algeria, from which I bred a single specimen (88813), certainly paler than our *bennetii*, but otherwise somewhat similar. When again at Biskra last

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winter, I searched diligently for more of these larvæ, and succeeded in finding them not uncommonly in three separate localities—Ain-Oumash, Hammam-es-Salahin, and Oued-Biskra near the town itself. In this latter place, with it, were some tuberculated larvæ which were at once recognised as *Millière's lerinensis*. My first impression was that here was a most abnormal instance of a dimorphic larva, but this has been amply dispelled by breeding a series of both species rather larger than the Cannes specimens, and perfectly distinguishable from each other. After careful comparison it is now evident that, in the Sahara, we find, not the English *bennetii*, but *Millière's* two species *staticis* and *lerinensis*, feeding side by side on the same plant and at the same time; a remarkable confirmation of their first published discovery on the Îles Lerins, near Cannes.

In addition to these there are found at Biskra three other species, *A. tamaricis*, Z., *A. frankeniae*, Z., abundant, and a fine new species on *Limoniastrum guyonianum* which I propose to call *Agdistis sphinx*, from the curious resemblance of the larva to a young larva of one of the *Sphingidae*, the protruding tubercle above the head having exactly the appearance of an anal horn, while the attenuation of the body posteriorly represents the form of a Sphingid larva in the reverse position. I confess to having been entirely deceived by this appearance in the first specimen taken at Biskra in 1903.

The new species may be described as follows:—

1427: 1. AGDISTIS SPHINX, sp. n.

Antennae less than one-half; pale, slaty cinereous. *Palpi* short, rather roughly clothed, suberect, projecting but little beyond the frontal tuft; pale, slaty cinereous, with a few blackish scales. *Head* and *Thorax* pale, slaty cinereous. *Forewings* narrow, elongate, widening outward; pale, slaty cinereous, sparsely sprinkled with blackish scales, except upon the paler triangular space, representing the longitudinal fold, which is conspicuous; on the outer third of the costa are four elongate, blackish, spots, in two pairs, the space between them paler than the ground-colour of the wing; at the inverted apex of the pale triangular space is a strong blackish spot, followed along the lower edge of the same space by two smaller ones, the first elongate, the second shorter, and placed about half-way between the apex and the base of the pale triangle; at the tornus is also a blackish spot, reaching more faintly through the cilia, with two others on the lower half of the termen; cilia pale, inclining to ochreous, their outer half slightly greyer than their base. Exp. al. 29-35mm. *Hindwings* rather shining, pale greyish cinereous, the veins slightly darkened, with a slight greyish fuscous marginal shade above, at, and beyond, the flexus; cilia as in the forewings, but paler towards the apex. *Abdomen* greyish cinereous. *Legs* pale, slaty cinereous. Type ♀ (97326); ♂ (97327); ♂ (97328-31); Mus. Wlsm.

Hab: ALGERIA—CONSTANTINE—Ain-Oumash, Hammam-es-Salahin, Oued-Biskra. Larva *Limoniastrum guyonianum*, II.-III.; 8-9, V. 1894 (Eaton); 30. III.-2. IV. 1903; 9-30. IV. (excl. 10-16. IV.), 1904; excl. 10. IV.-11. V. 1906 (Wlsm.). Twenty-seven specimens.

Larva variable in colour, usually pale glaucous green (similar to the leaves of the foodplant which it further resembles by the presence of minute paler pimples over the whole surface); prothorax with a short, raised, truncate, tubercular projection, covering the head when at rest; metathorax with a longer and more pointed projection directed obliquely forward and pimples on its surface; a whitish spiracular line runs from behind the prothorax to the anal segment, and the anterior segments are stouter than the posterior, to which the size of the body gradually tapers. Long. 19mm. Some specimens are reddish grey throughout and intermediate tints are to be found.

The larva feeds exposed on the leaves of *Limoniastrum guyonianum* in February and March, and the perfect insects are to be found from the beginning of April to the end of May. It is common at and in the neighbourhood of Biskra.

Its nearest ally is probably *Agdistis paralia*, Z., which I have taken

near Cadiz, where larvæ, unfortunately not reared, but almost certainly belonging to it, occurred on *Limoniastrum monopetalum* in salt-marshes. It is a rather dark species, somewhat resembling *adactyla*, Hb., but larger, and surely the *manicata* of Standinger, associated in the original description with the above-mentioned plant, but erroneously regarded by Rebel (Stgr.-Rbl., *Cat.*, ii., 77, no. 1424) as "*adactyla*, Hb. 32-34; . . . ? *manicata*, Stgr."

Dr. Rebel is also mistaken (Stgr.-Rbl., *Cat.*, ii., 77, no. 1422) in making *A. lerinensis*, Mill., a synonym of *heydenii*, Z. I have bred the latter from larvæ found commonly on *Atriplex halimus*, and less often on *Asparagus*, at Cannes, and Millière gave *Euphorbia spinosa* as another of its foodplants. This is certainly more nearly allied to *frankeniae*, Z., than to *lerinensis*, Mill., whereas the latter approaches exceedingly near to *meridionalis*, Z. I have met with *meridionalis* in Corsica, but far from *Tamarix*, with which shrub Zeller was inclined to associate it.

Our knowledge of *A. sanctahelenae*, E. Wltn., *canariensis*, Rbl., *pustulalis*, Wkr., *ingens*, Chr., *minima*, Wlsm., and *nanodes*, Meyr., is at present too elementary to admit of bringing these species into useful comparison with their European congeners, but I have at least one undoubted specimen of *tamaricis*, Z., from the Cape-de-Verdes Islands, and others from Cape Colony, which cannot be distinguished from it; while further specimens in poor condition come from Arabia, Karachi (N.W. India), and from Accra and Bathurst (W. Africa).

The Pupal skin and hairs of *Loweia* (*Chrysophanus*) *amphidamas* (with plate).

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This pretty little pupa very much resembles that of *Hamearis* (*Nemeobius*) *lucina* in its pale colour, studded with black spots in the positions characteristic of so many Lycænid pupæ. Its fine sculpturing is also interesting. The appendages have only waved lines, not unlike those of the rest of the surface. Everywhere else, however, these waved lines are dependences of points, similar to those on other Chrysophanids. They have a central small point, never by any chance developed into a hair, a larger centre, with some trace of radiate structure, and a larger outside circle; from these, waved ridges proceed in four or five directions, often further dividing; they are often continuous from one point to another, but often, and over some regions always, fail to meet, but lose themselves on the general surface by fading out. The trumpet-hairs arise from bases like ordinary hairs, always independently of the ordinary points and ridges. They are of unusual form; they have a stem, but, instead of a more or less disc-like top, they divide and subdivide into branches, sometimes dichotomously, more often irregularly, the final branches ending in groups of spicules. They look like portions of some lichen, or coral, or deer's horn. They are only 0.04mm. high and across, and are very transparent, so that the figure shown from the photograph, though successful, gives a less satisfactory idea of their appearance than one might wish. Round the spiracles are numerous "lenticles," in size and general appearance very like the general surface-points and the hair-bases, but distinguishable at once by the membrane filling the lumen being studded with fine dots.